

**DUC** *Helices* Propellers

ISO 9001  
BUREAU VERITAS  
Certification



contact@duc-helices.com - www.duc-helices.com

New propeller

# SWIRL-3

HIGH DOUBLE EFFICIENT\*  
for geared engine



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## HIGH DOUBLE EFFICIENT\*

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### >> Description

1<sup>st</sup> propeller fully developed by simulation:

- ✓ Aerodynamic simulation in CFDs under ANSYS Fluent
- ✓ Calculations of Mechanical Resistance & Vibration Behavior of the composite structure under ANSYS Composite PrepPost & Mechanical
- ✓ Simulation of acoustic emission under ANSYS Fluent
- ✓ Validation of simulations by bench tests & flight tests

**\* No performance compromise!**

Double Efficiency optimization by calculations:

- High Take-off Efficiency
- High Cruise Efficiency

- ▶ High "Constant speed" effect & High Calculated Efficiencies
- ▶ Low fuel consumption & Low noise

### >> Characteristics

- Certification LSA (ASTM F2506-10)
- Carbon composite blades and hub
- Low weight & Low inertia – 4.20 kg (9.26lbs) – 3-blade – Right
- Manufacture of high precision – Metal inserts in the carbon hub
- Shielding leading edges in Inconel®
- Diameter Ø64" to Ø75" (Ø1620 to Ø1900mm)

### >> Application

3-axis/LSA; Tractor airplane

Engine 80-125hp: Rotax 912, 912S, 912iS, 914, 915iS, ...

### >> Version

3-blade Inconel SWIRL-3-L, Right

3-blade Inconel SWIRL-3, Right

# ANSYS®

